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AUTHOR Spodek, Bernard
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ABSTRACT

Using the book "Fostering Intellectual Development in Young Children" by Kenneth D. Wann and the book's impact on education as a point of departure, this paper presents a way of looking at the early childhood curriculum that goes beyond the book but is in keeping with its concerns for the education of young children. The book was a forerunner of the new period in early childhood education where the focus began to be on the intellectual as well as the social domain. A 3-dimensional model is suggested that can be used in judging programs for young children using the value framework of liberation. An analysis of many current programs would suggest that they operate against children's liberty because judgments of what is good, true, right or possible are kept out of their hands. Approaches that help children test the validity of what is taught in ways that are independent from the teacher need to be a part of any curriculum that is liberating. Different forms of knowledge require different methods of validation as well as different methods of teaching and learning. (Author/MS)

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Fostering Intellectual Development - Reexamined 22 Years Later*

Bernard Spodek
University of Illinois

In 1962, Teachers College Press published a book titled: Fostering Intellectual Development in Young Children. It was authored by Kenneth D. Wann, Miriam Selchen Dorn and Elizabeth Ann Liddle. Since this conference was planned to honor the contribution of Kenneth Wann to Early Childhood Education, I felt it fitting to focus my address this evening on the ideas developed in that book of which Professor Wann was the senior author. My purpose is to assess, to some degree, the impact of the ideas in the book, to criticize the book, for to my way of thinking criticism is the highest praise one can give an idea, and to suggest a way of looking at early childhood curriculum that goes beyond this book but is in keeping with its spirit and with its concerns for the education of young children.

Fostering Intellectual Development was one of the first of a wave of books indicating a new period in early childhood education in the United States. (Muriel Wards Young Minds Need Something to Grow On was another of these of about that period; others followed.) These books symbolized a change in the thinking of those concerned with the education of children in nursery schools and kindergarten. A new assessment was being made of the content and structure of programs for young children.

I had been prepared in early childhood teacher education a decade earlier under a non-interventionist view of early education. The non-interventionist idea was that the role of the teacher was to provide a stimulating, attractive environment in which young children could play. The teacher would then step aside and let the children play without any adult interference.

While pioneers in early childhood education had discussed the intellectual values of early childhood play and had written descriptions of intellectually stimulating programs, intellectualism was considered a serendipitous outcome of such programs. The great concern of early education was for emotional prophylaxis. The nursery school was a place where children could deal with, and overcome, emotional conflicts through play. If they learned something over and above skills of handling personal feelings, that was fine, but it was not considered important. Nor was the teacher expected to step in and modify the activities of the child. She was to support development, not intervene in the processes. (I recall a 1964 meeting of NAEYC in which Martin Deutsch spoke of intervention techniques. He was almost stoned by the audience.)

Slowly, we began in the late 1950's and early 1960's to focus on the intellectual as well as the socio-emotional domain. A number of factors seemed to come into play at about the same time which helped this movement along. Some of these include:

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- The curriculum reform movement which, although it focused only peripherally on early childhood education had its impact on that level of education. Jerome Bruner's famous hypothesis that "any subject could be taught in some intellectually honest form to any child at any age" was an outgrowth of that movement.

- Newer conceptions of cognitive development which were characterized by the availability of works of Jean Piaget in English translation for the first time, even though many of these works were decades old. The amassing of data by J. McV. Hunt in his seminal book Intelligence and Experience also led to a rethinking of the nature of young children's experiences and their impact on later intellectual ability.

- And finally, a concern for the education of the "deprived" or "disadvantaged" as children of poor and minority groups were called. The high degree of school failure of this population was evident. The problem was ascribed to the child rather than the school. To better prepare these children for success in school, preschool education was seen as a possible means.

Yet with all this activity it is important to realize that the work reflected in Fostering Intellectual Development predates much of this activity, going back as far as 1954, when the original work on the study began.

The book is important for a number of reasons. Methodologically and substantively it has strengths and weaknesses. Its prime weakness stems from its essential empirical base without any theoretical underpinnings. /Had it been written a few years later it would have invoked Piaget in its support rather than engage Piaget's writings in arguments./ But the method of the study was an important contribution that is often overlooked. It is identified as action research, yet it is not. It is rather a group form of the Clinical Method that Piaget has used so well with individual children. It confronts children in their natural setting, allows for observations of the way in which young children seem to make sense of the world and creates little mini-experiments to identify children's thought processes. Recently we have begun to look seriously at ways of studying children in natural settings. The designs for research that are available today would be compatible with the methodology used in the study. This is a methodology, by the way, in which practitioners can be trained to become more systematic in their observations and to carefully manipulate a few variables at a time in their class, and then study the outcomes of these manipulations. This is a form of quasi-experimental design that would be quite useful in school settings.

The conclusions of the study were also intriguing. Let me summarize them for you:

1. Children collectors of information. We found children attempting to understand people, places and events remote in time and space from their own immediate surroundings. We found children developing confused and inaccurate concepts. We found children indulging in animism and the enjoyment of phantasy as they viewed their immediate world. More frequently, however, we found them seeking to understand the causes of the phenomena they observed and to test their own thinking about these phenomena. We also found children concerned about the demands of social living and struggling to understand the very complex symbol system of their social world.

2. Young children employ the essential elements of concept formation. ...The children repeatedly sought more and more information about a given topic and that they consciously tried to relate and test one bit of information against another. ...They were associating ideas, attempting to discover cause and effect relationships, classifying and generalizing about those things which they see, hear, and feel in their environment.

3. Teachers can enrich experiences for children by studying the children as we did...

4. Our findings point to an organizing base for nursery and kindergarten programs.... The process of concept formation observed in many of the children suggests that we might consider fundamental structure or key concepts in each of the bodies of knowledge as keys to the facts or information that should be taught. (emphasis added) (pp. 18-20)

The conclusions are interesting. The researchers observed children interacting with their environment. They found the children testing their thinking, testing one bit of information against another. From these observations of children engaged in intellectual activities, the authors arrived at the conclusion that children's activities can be enriched intellectually and the way to do that is to use the key concepts or structures embedded within the scholarly discipline.

The first set of questions that can be asked is:

1. If the children were seeking to understand causation, how did they test their thinking about it? and

2. As they formed concepts, how did they relate and test one bit of information against another? (What test did they use?)

There is an epistemological question that must be raised here that is skirted in the book and in most of the contemporary literature. How do children test the truth of concepts? We probably have all heard the story about the kindergarten class having "show and tell" to which a child brings a rabbit. One child asks the teacher, "Is it a boy or a girl rabbit?" Perplexed, the teachers calls on another child who says, "I know how we can tell. We can vote on it."

The humor in the story stems from the fact that we mature adults know that voting does not determine an animal's sex. There are some truths that are determined by voting. (A person must be 35 years old to become president of the U.S., or every masters student in our department must take El. Ed. 431 or 434 as part of his program.) Other truths are based upon consensus (women must wear hats at afternoon weddings.) Yet others are the results of empirical testing.

But what about cause-effect relationships? My experience tells me that washing and waxing my car causes rain (as does watering my lawn in summer). With unremitting predictability, whenever I wash and wax my car, rain follows. There must be a causal relationship! How could I, as a young child (or an adult) test the truth of that relationship, or the worthiness of a classification scheme--or its supportability?

The second set of questions relatee to 1) how one can enrich children's experiences by studying them, and 2) what observable phenomenon in the nursery-kindergarten class can suggest the use of key concepts as an organizing scheme for curriculum? Observation can tell us what is, not what ought to be. And the use of the structure of the disciplines as the basis of school programs has to be justified by something other than child study.

There is a logical leap that was made here that really cannot be supported by the data. And Wann, Dorn, and Liddle were not the only ones who have made this leap. My own doctoral study cited in the book and leading later to a co-authored book titled New Directions in the Kindergarten is based essentially on the same faulty logic: That somehow by observing children one can arrive at proposals for determining the content of early childhood education programs and that inversely, immersing the child in an educational program will somehow influence basic developmental processes.

The tradition of the field has been that early childhood programs are directly derivable from child study. I have elsewhere argued that child study is an inadequate basis for generating early childhood programs. The conclusions of Fostering Intellectual Development can be seen as an attempt to break away from the traditions of the field, while still being constrained by those same traditions. This is a dilemma we continue to face today.

The problem with a conception of early childhood education based upon psychological developmental theory is that it provides no way for the individual to know, to grow, or to be free, outside of the context provided by those who are nurturing him and educating him and, who because of this, are controlling him. It provides no guidelines to allow the children to test ideas--to determine what is true and what is right or moral, outside of recourse to an external authority--often a teacher. In most early childhood classes it is the teacher who determines what is considered true and how that truth is tested.

Learning theory provides a paradigm only for the acquisition of knowledge, not for the testing of the truth of that knowledge in any way. Developmental theory provides a paradigm for personal change over time, but not for a way of judging whether the change that does take place is worthy, that is, is better than other possible changes that might have taken place in that human organism if other environmental influences had been allowed to come into play. The creation of educational programs for people of all ages is essentially a matter of selection from among many possibilities. While knowledge of human development might help us to understand the possible consequences of choices, or whether some choices are actually possible at certain levels, it does not allow us to judge choices as good or better. It does not allow us to judge the worth, for example, of the stated structure of a discipline, or even to judge whether that discipline ought to be taught at any level of development.

If all knowledge were the result of a single type of cognitive process, if all knowledge resulted from the application of scientific method, then the establishment of early childhood curriculum would be a relatively simple matter. Dewey's "problem solving technique" could provide us with a framework for generating rationality in children and we could then devise our programs accordingly. However, changes have taken place as result of thinking about what human beings know and how they get to know what they know. Not only is it generally held today that

not all knowledge can result from scientific inquiry, but "the scientific method" has even been called into question as the method of generating scientific knowledge.

The assumption that science grows from the accretion of empirical observation and that theories merely reflect these observations, even the assumption that there can be such a thing as objective observations and hence objective knowledge, has been questioned by philosophers of science such as Kuhn and Polanyi. Knowledge is coming to be seen more as a human invention rather than as a human discovery. Other forms of knowledge growing out of human experience are being analyzed by philosophers interested in the nature of knowledge and of human experience. Each of the views generated could provide us with a different basis for judging what are appropriate experiences to provide to children so that they can become better knowers. The point is that we need something more than child study to determine program content.

I would like to present a framework which I believe can be fruitful in developing a program of early childhood education concerned with knowing as the aim of education. There are three dimensions to this framework, very much like three dimensions of a cube: a knowledge dimension, a social context dimension and a developmental dimension. I would then like to suggest how this might be used as a framework for analysis, given three different views of knowledge.

The developmental dimension can be used to determine what are developmentally appropriate activities for children that is, the degree to which children are "ready" or capable of profiting from these activities. Along this dimension one may seek information to deal with what Hunt calls "the problem of the match." Since these dimensions have been discussed and argued thoroughly elsewhere in the literature of early childhood education, I will not expand on them or their uses at present, except to suggest that, within this framework a theory viewing development described as taking place by stages (as in Piaget's work) or by accretion (as in the Behavior Analysis view) could be fit.

The second dimension is that of culture context. The classroom, the school, the community, and the nation are all levels at which culture is manifest. From my point of view, there is little difference at what level cultural context analysis takes place since in general there is a high degree of consistency across levels.

Among the dimensions of culture that I see as affecting educational curriculum are: cultural values, levels of technology, cultural organizational forms, and cultural symbol systems. Others certainly exist and this side of the cube will no doubt have to be expanded. Cultural values can tell us what is considered important for an individual to know. Technology can tell us the level of knowledge as well as the areas of knowledge that are necessary requisites for coping in a society and for becoming productive. Organizational forms determine how knowledge is shared and used, while cultural symbols provide the vehicles for communicating knowledge of all kinds.

Values, for example, have always been used in determining the content of early childhood programs, though their use has seldom been made explicit. In the pioneering book, School Begins at Two, for example, Harriet Johnson suggested that curriculum construction in the nursery school requires "an ordered analysis of observed behaviors; the outlining of stages and phases in development; and the

conception of certain interests and impulses dominant in early childhood. It /curriculum/ must also assume a logical relationship between the trends in behavior and the educational processes...." Interestingly, while Johnson saw nursery school curriculum as following the interests of children, it was not expected that these interests will be followed blindly. Rather, the nursery school teacher, in constructing her curriculum must "know the attitudes, interests and capacities she believed it desirable to foster, why she considers them important and by what methods she proposes to further their development among children in her care." The development of traits and attitudes, often not clearly identifiable in observed behavior rather than skills or specified performance were seen as the goals of early childhood education. Values, it seems, played an important part in the selection of those traits and attitudes that would be nurtured in the nursery school and those which should be discarded or suppressed.

As an example, in order to show the role that values can play in analyzing programs, let us look at the value of freedom. Often freedom is thought of in its negative sense alone, that is, the absence of external constraints. In this view, the fewer laws or external impositions exist, the freer an individual is. The caveman, a lone dweller, might be considered the freest person for without society, and without rules, he could do what he wanted. The problem with this conception of freedom is that there were relatively few things that the caveman could actually do, for his circumstance caused him to spend almost all of his time in gaining the basic necessities needed to stay alive.

As societies developed, even though constraints were put on individual acts, a greater range of potential activities were available. A man did not have to do for himself everything that needed to be done in order to support existence. One could now trade activities with other persons so that choices could be made. In addition, a technology developed which allowed an individual to meet basic needs with fewer resources, thus leaving time for leisure activities, activities for which there was no concern for the consequences of acts. This second conception of freedom differs from the first. The first supposes a negative conception of freedom, a freedom from.... The second viewed freedom in a more positive conception, a freedom to act, a freedom to.... In early childhood education, traditionalists have focused primarily on "freedom from...." Behaviorists, on the other hand, have been essentially concerned with freedom to.

Probably the most satisfying definitions of freedom have to include elements of both here, that is both a freedom from... and a freedom to.... In "What Are the Sources of Early Childhood Curriculum," I suggested that it might be appropriate for early childhood educators to use as the rule to determine worthwhile educational activities for young children, the criteria of the achievement of "Autonomy based on reason," a goal suggested by Dearden in Philosophy of Primary Education. The goal derives from a view that education of all children, including young children, should serve a liberating function. Activities that lead to this liberation are worthy of inclusion in programs. The notion of autonomy as presented by Dearden has two aspects, (1) independence of authorities, and (2) the personal testing of the truth of things, then forming intentions and acting according to a personal scale of values. Reason is needed to make choices and identify values if selection is to be independent of authority.

Autonomy, as Dearden puts it, needs to be seen as an element of liberty or freedom. Just as there is no such thing as absolute freedom, there is not personal liberty without the proper cultural context. It is society that provides the possibilities of freedom as well as the limitations on personal actions. This holds true both within the field and without.

The point of this analysis is that if we want people to be free (autonomous, liberated), then we should help them to be so. We can analyze our practices with children to see which activities make them more free, and which hinder or do not help. To paraphrase Johnson, we can foster the interests, capacities and attitudes of children to be free and to further their development to seek greater freedom.

In Fostering Intellectual Development, as stated earlier, the children were observed engaged in testing truth, that is testing their own thinking as well as testing one bit of information against another. One wonders, however, whether they were offered appropriate means to test these truths. These means can be derived from the final part of the model.

The third dimension of the model is the knowledge dimension. We can identify along this dimension the formal knowledge systems, as well as ways of using knowledge, including the "coping and caring" dimensions that must be a part of all programs of early childhood education, no matter what knowledge system is used.

So far, I have been able to identify three conceptions of knowledge systems that I believe are applicable to early childhood education programs. The three I would like to present here are derived from the work of Philip Phenix, Jean Piaget and Jurgan Habermas.

Phenix identifies six essential realms of meaning available to man today (3): Symbolics, in which he groups language, mathematics and nondiscursive symbolic forms. These latter include signals, body language, ritual, manners and customs, graphic symbols, dreams, and other metaphoric means of communicating. All of these are humanly constructed forms of expressing meaning and are based on cultural conventions. Words, flags, gestures, maps, and even the clothes we wear serve as symbols. The second realm of meaning is Empirics, which are matters of fact which derive from experience. The science of the physical world, of living things and of man are included here. Both science and social studies focus on empirics. The third realm is Aesthetics, including the various arts. According to Phenix, "Meanings in this realm are concerned with the contemplative perception of particular significant things as unique objectifications of ideated subjectivities." A picture is important, not because of its generalizability, but because it has objectified a particular subjective experience and allows us all to share it.

Phenix's fourth realm, Synnoetics, is personal or relational knowledge. Under this realm one would find such knowledge as insight, sympathy, awareness. Synnoetic knowledge is the result of meditation or reflection rather than experience. The psychoanalyst, for example, has been described as "listening with the third ear." The fifth realm is Ethics that includes, according to Phenix, the "moral meanings that express obligation rather than fact, and are expressed in personal choices and conduct;" that is, what is right is not the same as what works. The sixth area, Synoptics, refers to meanings that are comprehensively integrative, including the areas of religion, history and philosophy. These are used to combine the other meanings into coherent wholes and provide unity to our lives.

A cursory look at traditional early childhood curriculum would lead me to believe that the majority of the ways of knowing available to man as identified by Phenix have been left out either by default or design. Religion is excluded from public education programs as a result of a long standing cultural decision. Philosophy is excluded because it is viewed as beyond the capability of young children to understand. Personal meanings are often excluded because teachers see them as irrelevant, or do not have the technical tools to deal with them although good intuitive teachers use them. And so programs focus almost entirely on symbolics and empirics, except that too often the content of empirics may be provided to children only in symbolic form (some means of telling rather than experiencing). This is a useful scheme; there are others.

Let us move on to another way of analyzing knowledge. Although viewed by many in our country as a developmental psychologist, Jean Piaget is essentially a developmental epistemologist. He is concerned with how knowledge is developed in children and the relationship of the child's development to the acquisition and verification of knowledge. Kamii has identified four forms of cognitive knowledge with which Piaget has been concerned. (Since cognition has been Piaget's primary concern, his forms would have to be extended to cover other areas of knowledge, as Kamii has done.)

The four areas are physical knowledge, social knowledge, logical mathematical knowledge, and representation. (Note that these can be subsumed within Phenix's framework.) The differences between these areas of knowledge derives from how each form of knowledge is generated and verified. Physical knowledge is knowledge of the physical environment (Empirics?). It can be derived and verified through direct contact with the physical world. The hardness or smoothness of a table is physical knowledge. Social knowledge comes from people: it is symbolic in nature; it is arbitrary; it cannot be directly observed and essentially must be told in some form to people (Symbolics?). That we don't sit on tables is social knowledge. Logical mathematical knowledge includes intellectual processes that are used to operate upon information in the creation of meanings and relationships. These include classification, seriation, numerical construction, and the structuring of time and space. We can classify tables and non tables, order tables by size and count tables. Representation includes ways of symbolizing other forms of knowledge. We can draw a picture of a table or write the word "table." Piaget's developmental work has attempted to identify stages at which children can operate on the world to obtain or create knowledge. These stages have only been identified for logical knowledge (these are the well known sensorimotor, preoperational, concrete operational and logical operational states) and in the area of representation (where Piaget identifies three stages of index, symbol, and sign).

Using Piaget's framework of knowledge, teachers can analyze their programs to see if the opportunities which they provide children to gain and validate knowledge are consistent with the form of knowledge with which they are concerned. A cursory analysis of many classrooms would show both an absence of concern for some forms of knowledge as well as an inappropriate match of knowledge and experience, thereby limiting freedom of the individual to independently verify what he knows. This increases the dependence of the child on authority (the teacher) as the source of knowledge as if all knowledge was social knowledge.

Jurgan Habermas' view of knowledge is quite different from the others. Habermas views differing cognitive knowledge forms as resulting directly from different human interests. Objective knowledge, that is knowledge that results from disinterest is

rejected by Habermas who has identified three forms of human interest and three resulting forms of cognitive knowledge. The empirical analytic sciences incorporate a technical-cognitive interest in control. The historical-hermeneutic sciences incorporate a practical cognitive interest in consensus. The critically oriented sciences incorporate the emancipatory interests of man.

Empirical knowledge, knowledge generated by the traditional physical and natural sciences, are concerned and can be used to develop technology; knowledge, that is, to control variables in the environment to achieve ends. The hermeneutic sciences which include history as well as aspects of the humanities and social sciences, provide knowledge that creates the basis for achieving social coherence and hence the maintenance of the practical aspects of society. This knowledge is used to create consensus. Critical knowledge is a result of self-reflection. It is the human being's ability to reflect on his experiences and the experiences of others that keeps him from being merely the result of external forces. This is the essential ingredient of freedom.

In most programs of early childhood education one can find elements of empirical knowledge and historical knowledge. Too often, however, opportunities for self-reflection are absent. Nor, by the way, can increased technical competency alone serve the aim of liberating children.

Let us test this model to see how it can be used to analyze early childhood program activities:

Imagine a classic experiment in school science. A teacher in a class of young children sets out a candle, a jar and a match. While the children watch, she lights the candle, waits a while, and then covers the candle with the jar. She asks the children, "What happened?" They respond that the flame went out. She then asks, "Why did it happen?" If there is no response, she explains to the children that the flame consumed the oxygen in the air that was trapped in the jar. Since oxygen is needed to support combustion, the flame was extinguished when there was no more oxygen available.

What have the children learned? Can they see the oxygen in the jar? Can they test for its absence or presence? Can they determine whether or not combustion can take place in a variety of media? What the teacher has taught the children is that the source of scientific knowledge is authority--in this case the teacher--who can never be proven wrong. She has mystified science.

From a value point of view, this activity has oppressed rather than liberated children because they are not able to independently validate knowledge provided by the teacher. From a knowledge point of view (Piagetian in this case), the physical knowledge of the attributes of the system in the jar were not accessible to them. They did not get to know about gasses or combustion. This was true partly because they were developmentally unable to have access to means to test for the absence or presence of gasses in the air in the jar. (Was the oxygen really used up?) Logico-mathematical knowledge was not used. The children were not expected to act on data provided. From each of the dimensions of the model, this is not a worthwhile activity, although it continues to be suggested for early childhood classes.

Let me take another example from a recent book on early childhood education. An anecdote introduces the chapter in science. It relates that a child was sawing a piece of wood vigorously, then felt the heat of the saw blade. The teacher explains the heat by saying, in essence, "You made a lot of friction. This made the saw hot." Given the child's level of development and his knowledge of physical phenomena, this example, which is considered by the author as illustrating the most effective order for preschool children's scientific education to follow, advocates that teachers serve as authorities and provide principles to children which cannot be verified. Again the child was being kept from becoming autonomous in his thinking, his liberty was being constrained. In each of these examples the teacher has withheld from the child access to his own construction and verification of knowledge. They do not allow the child to reflect on his experiences.

A liberating educational activity would not present young children with science activities which focus on gasses or any other phenomena whose presence or absence cannot be verified by the child. Liberating activities would deal not only with the concrete but with the accessible. A liberating educational opportunity would allow the child to mess about, as David Hawkins says, with experiences, having him come in contact again and again with like phenomena, so that a class of experience can be created for the child. A liberating education would allow the child to construct and verify his own knowledge.

I have tried to present a framework that goes beyond the use of child study as a basis for selecting educational experiences for young children, including the cultural context and conceptions of knowledge in the selection. I will be the first to admit the framework is incomplete as a blueprint for the knowledge base of early childhood programs. The Piaget and Habermas frameworks deal essentially with cognitive knowledge alone, although Piaget's conception includes forms of representation and Habermas' view of cognition goes far beyond empiricism, including personal knowledge and social knowledge as well. Even Phenix's framework seems the broadest, lacks a view of skills as knowledge. Yet skills are a major form of what we teach young children and can be conceived of as knowledge as well. If you are an athlete you know how to throw a ball, swim swiftly or tackel an opponent so that he goes down. Similarly, if you are an artist, you know when a picture is "right," or how to turn a bowl to achieve an aesthetic shape, or how to move a brush so that the intended form and the intended mixture of color appears on the canvas. You may not be able to describe what you know in words, but this does not negate the fact that you know.

This is what Polanyi refers to as tacit knowledge, a form of knowledge that is as important in science as in these non-scientific areas. While this form of knowledge might not be capable of being described or communicated in words, it nevertheless is something that is known and can be transmitted. (Much of what a successful classroom teacher knows may fall into the realm of tacit knowledge.)

The limitations of these conceptions of knowledge grow out of the choices that scholars exercise in studying only those realms that they select. The need, therefore, is to search for other views of knowledge that can fill out this third dimension of the model I am presently proposing. It may very well be that a synthesis of systems will prove the most fruitful way of filling this dimension. The test of the worth of the model rests both in the ability to fill in the three dimensions of the curriculum model and in the usefulness of the

model as a tool for making decisions about activities to be provided for young children in school. It would seem to me that on the basis of this model three basic questions should be asked about what is taught to and how it is taught.

1. Is what is taught worth knowing? Is it considered valuable to know what will be learned? Are the outcomes useful? Are they consistent with the demands of the culture? Do they help the child cope better with his surroundings or become more productive within them?

2. Is what is taught developmentally appropriate? Is there a proper match between what is offered and what the child already knows? Is it an extending activity without being a frustrating activity? Is the child able to deal appropriately with the data provided? Does he have the requisite intellectual skills (or social skills or physical skills) to handle what is being offered?

3. Is what is taught to the child testable by the child? Is the knowledge presented in activities that allows the child to validate the truth or righteousness of that knowledge independent of the teacher? Does the method of instruction fit the knowledge being taught?

Using the value framework of liberation (or freedom, or autonomy) I have suggested a three dimensional model that can be used in judging programs for young children. An analysis of many current programs would suggest that they operate against children's liberty because judgments of what is good, what is true and what is right, as well as what is possible, are kept out of their hands. Such judgments do not result from increased technical competency but from increased self-reflection. Methods and approaches that help children test the validity of what is taught in ways that are independent of the teacher need to be a part of any curriculum that is literating. Different forms of knowledge require different methods of validation as well as different methods of teaching and learning.

Merle Borrowman suggests that:

"In the classical tradition, a liberal art was an art that made men free--free from the dictates of passion and prejudice, free from the natural limitations of an untutored mind, and free from the pressure for immediate production of goods and directly marketable services." (p. 2)

A liberating education was an education in the liberal arts. This form of education was reserved for the college or university student. Liberation was conceived of as embedded in knowing and in reflecting about what was known. The skilled artisan or competent practitioner was not necessarily liberated, although he could be. His liberation, however, was not embedded in his competence, for there were competent slaves at one time. Rather, liberation was embedded in the ability of the individual to make choices, to judge and then to exercise the consequences of judgment.

Liberation does not have to be reserved for the adult or near adult. Freedom, in various degrees can be allowed for all persons at all ages, and preparation for freedom must be considered to be central to the education of people at all levels of development. In a conception of education for liberation therefore it is incumbent that even young children be helped not only to learn but also to judge and validate what they come to know.

While we must continue to foster intellectual development in young children, we need to look at the ways in which knowledge can be fostered in them as well, and at the degree to which this knowledge can strengthen the value dimension of our culture. Perhaps this is the task of the next twenty-two years.

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BS:jb
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